

A New Method for Measuring Methanol Partitioning between Aqueous and Hydrocarbon Phases

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A new method is established for measuring the methanol partitioning between water and hydrocarbon fluids at high-pressures. The apparatus consists of two vertically placed piston cylinders connected with a valve block and a recirculation pump for pumping vapor from the top cell to the bottom of the bottom cell as a method of agitation. The apparatus is capable of equilibrating systems at pressures to 690 bar and temperatures from 0 °C to 50 °C. Gas chromatography analysis is used. Results from this method are in excellent agreement with published data.

Knowledge of methanol partitioning is essential for the oil and gas industry where methanol is used to inhibit hydrate formation. Currently methanol partitioning is calculated using phase behavior programs which may be in error up to 72% as shown in this paper.